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FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS

FALL WATER SUPPLY SUMMARY

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for
NEVADA

NOV 9 - 1966

CURRENT SERIAL RECORDS

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,
and

NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above
in cooperation with the Federal, State and private organizations listed
on the last page of this report.

AS OF
OCT. 1, 1966

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

Listed below are water supply outlook reports based on Federal-State-Private Cooperative snow surveys. Those published by the Soil Conservation Service may be obtained from Soil Conservation Service, Room 507, Federal Building, 701 N. W. Glisan, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES	MONTHLY (FEB.-MAY)	PORTLAND, OREGON	ALL COOPERATORS
BASIC DATA SUMMARY	OCTOBER 1	PORTLAND, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MAR.-MAY)	PALMER, ALASKA	ALASKA S.C.D.
ARIZONA	SEMI-MONTHLY (JAN. 15 - APR. 1)	PHOENIX, ARIZONA	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
GOLORAOG AND NEW MEXICO	MONTHLY (FEB.-MAY)	FORT COLLINS, COLORADO	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO	MONTHLY (JAN.-JUNE)	BOISE, IDAHO	IDAHO STATE RECLAMATION ENGINEER
MONTANA	MONTHLY (JAN.-JUNE)	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
NEVAOA	MONTHLY (JAN.-MAY)	RENO, NEVAOA	NEVAOA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
OREGON	MONTHLY (JAN.-JUNE)	PORTLAND, OREGON	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH	MONTHLY (JAN.-JUNE)	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER
WASHINGTON	MONTHLY (FEB.-JUNE)	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	MONTHLY (FEB.-JUNE)	CASPER, WYOMING	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA	MONTHLY (FEB.-JUNE)	WATER RESOURCES SERVICE, DEPT. OF LANOS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA	MONTHLY (FEB.-MAY)	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.

FALL WATER SUPPLY SUMMARY for NEVADA

Report prepared by

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and

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SOIL CONSERVATION SERVICE
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RENO, NEVADA

OCTOBER 8, 1966

Issued by

CHARLES W. CLEARY, JR.

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

ELMO J. DE RICCO

DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA

FALL WATER SUPPLY SUMMARY

FOR NEVADA

October 1, 1966

Nevada's 1966 irrigation water supply was good for irrigators with adequate reservoir storage, but water users depending on natural streamflow had a short supply.

The build-up of early season snow pack in January and early February indicated near average streamflow was in prospect at that time. The lack of precipitation during the remainder of the spring and summer months, however, caused streamflow forecasts to be reduced each month as the season progressed. A continued lack of precipitation during the summer caused the May-July flows to be less than expected.

Nevada's seven principle reservoirs, not including Lakes Mead and Mohave, are 41 percent of capacity and 97 percent of the October 1 average for the 1948-62 period. Smaller reservoirs, such as Wild Horse, Boca, Topaz, and Bridgeport, contain less than half of the average October 1 storage and will have little carry over this fall. A warm, dry summer caused higher than average use of reservoir storage.

Range and mountain soils were powder dry until recent rains began to dampen the top few inches. Several inches of moisture will be required to prime the soil profile before runoff can begin next spring.

Electronic equipment is presently being installed to transmit hydrologic data from Marlette Lake and Hagans Meadow near Myers, California, as well as Independence Lake which was operating last year. This information will be radioed to Reno and recorded on teletype automatically every morning, or may be called for hourly if an intense storm requires more frequent readings.

Daily readings from these locations will be published, beginning with the first 1967 Water Supply Outlook Report, issued on January 8, 1967, and monthly thereafter through May. These reports will contain the latest snow surveys, precipitation, reservoir and soil moisture data, as well as April-July forecasts on streams affecting most Nevada water users.

APRIL-JULY 1966
NEVADA STREAMFLOW FORECASTS
AND
OBSERVED STREAMFLOW

The following table contains April-July forecasts made during the past winter, except as otherwise noted. Observed streamflow amounts are provisional and were furnished by the U. S. Geological Survey and other agencies.

	April-July, Streamflow Thousand Acre-Feet							
	Forecast				:Observed			
	Feb.	Mar.	Apr.	May*	Observed	15-Yr. :	1966	
	1 1966	1 1966	1 1966	1 1966	Apr-July: 1966	Av. : 1966	as % :1948-62:15-Yr.Avg.	
Owyhee R. nr. Gold Cr., Nev. ¹	16	14	10	2 (4)	6	22	27	
Owyhee R. nr. Owyhee, Nev. ¹	56	45	37	10 (11)	21	74	28	
Lamoille Cr.nr. Lamoille, Nev.		23	20	17 (6)	7	26	27	
So.Fk. Humboldt nr. Elko, Nev.		57	50	38 (7)	11	60	18	
Marys R. above Hot Springs, Nev.		20	16	9 (5)	11	34	32	
N.Fk. Humboldt at Devils Gate, Nev.		18	14	5 (2)	7	34	21	
Humboldt R. at Palisade, Nev.	145	140	120	60 (22)	54	173	31	
Humboldt R. at Comus, Nev.		95	85	40 (15)	40	127	31	
Martin Cr. nr. Paradise, Nev.		11	8	4 (3)	5	17	29	
E. Walker nr. Bridgeport, Calif. ²		62	50	38 (28)	38	57	67	
W. Walker below E. Fk. nr. Coleville, Calif.	160	150	125	100 (74)	98	140	70	
E. Carson nr. Gardnerville, Nev.		185	155	110 (85)	127	179	71	
E. Carson nr. Gardnerville, Nev. (date of 200 c.f.s. flow)		7/22	7/15	7/5	6/27	7/20		
W. Carson at Woodfords, Calif.		55	45	30 (22)	37	52	71	
Carson R. nr. Carson City, Nev.		180	140	87 (58)	95	169	56	
Carson R. at Ft. Churchill, Nev.		165	125	75 (49)	80	155	52	
Little Truckee R. above Boca, Calif. ³	96	68	44 (25)	48	78	62		
Truckee R. at Farad, Calif. ^{3,4}	284	202	130 (74)	155	269	58		
Lake Tahoe 3,5	1.50	1.10	.70	.71	1.47	48		
Virgin R. at Virgin, Utah**	55	57	35	30	39	43	91	
Surprise Valley Streams	Observed data not yet available							

1. Corrected for storage in Wild Horse Reservoir.
2. For period April through August corrected for storage in Bridgeport Reservoir.
3. Forecast issued by Truckee Basin Water Committee, which is composed of Truckee-Carson Irrigation District, Sierra Pacific Power Company, and Washoe County Conservation District.
4. Exclusive of Tahoe and corrected for storage in Boca Reservoir.
5. Maximum rise, in feet, from April 1, assuming gates closed.

* May 1-July 31, 1966 forecast; figures in parentheses provisional observed streamflow.

** April-June forecast furnished by SCS, Salt Lake City, Utah.

NEVADA

STATUS OF RESERVOIR STORAGE

OCTOBER 1, 1966

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (1000 A-F)	USABLE STORAGE - 1000 ACRE-FEET				15-YR. AVE. 1948-62
			1966	1965	1964		
Owyhee	Wild Horse	33	1	18	0*	12	
Lower Humboldt	Rye Patch	179	80	175	100	49	
Colorado	Mohave	1,810	1,387	1,377	1,341	1,152**	
Colorado	Mead	27,217	15,004	14,708	11,623	19,307	
Tahoe	Tahoe	732	406	655	278	391	
Truckee	Boca	41	2	18	9	13	
Truckee	Prosser	29***	9	19	16	Storage began 1/30/63	
Carson	Lahontan	286	57	207	97	80	
West Walker	Topaz	59	6	41	8	14	
East Walker	Bridgeport	42	6	30	8	12	

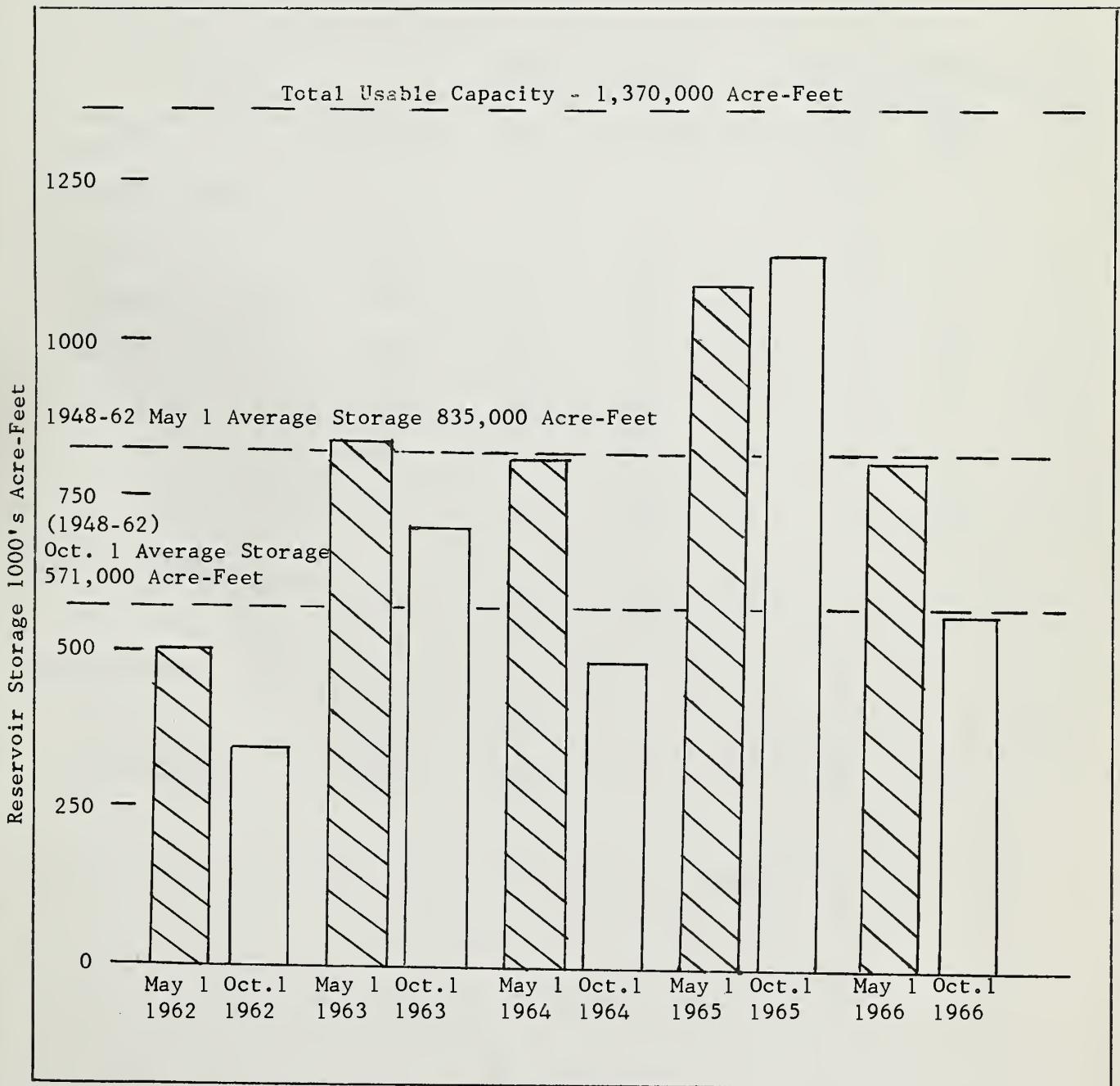
* Reservoir drained during summer to effect repairs to dam.

** 1951-62

*** Flood control use allocation of 20,000 acre-feet between Nov. 1 and April 10.

NEVADA RESERVOIR STORAGE
1962-1966

Based on Wild Horse, Rye Patch, Tahoe,
Boca, Lahontan, Topaz, and Bridgeport Reservoir Storage Data.



NEVADA
SOIL MOISTURE
OCTOBER 1, 1966

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
Name	Elevation	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
<u>East Slope Sierra</u>							
Hagans Meadow	8000	36	3.65	10/4	0.0	2.3	0.8
Independence Camp	7000	34	6.10	10/5	4.4	6.1	4.5
Marlette Lake	8000	50	3.70	10/4	0.5	3.7	2.6
Sonora Pass	8800	48	8.30	8/1	6.8	7.6	6.6
Truckee #2	6400	18	3.65	10/5	1.5	---	0.8
Ward Creek	7000	49	5.80	--	---	5.7	1.0
<u>Humboldt Basin</u>							
Rodeo Flat	6800	42	11.0	8/30	10.1	10.2	8.3
<u>Owyhee Basin</u>							
Big Bend	6700	48	16.7	8/30	15.0	---	14.5
Taylor Canyon	6200	48	15.1	9/7	10.6	12.5	---

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

Agricultural Research Service
Army
Bureau of Reclamation
Fish and Wildlife Service
Forest Service
Geological Survey
Navy
Soil Conservation Service
U.S. District Court - Federal Water Master
Weather Bureau

STATE

California Cooperative Snow Surveys
California Department of Parks and Recreation
California Department of Water Resources
Colorado River Commission of Nevada
Nevada Association of Soil Conservation Districts
Nevada Cooperative Snow Surveys
Nevada Department of Conservation & Natural Resources
Division of Water Resources
Nevada State Forester-Firewarden
Oregon Cooperative Snow Surveys
University of Nevada
White Mountain Research Station, Univ. of California

PRIVATE

Amalgamated Sugar Company
Kennebott Copper Corporation
Nevada Irrigation District
Owyhee Project North Board of Control
Owyhee Project South Board of Control
Pacific Gas & Electric Company
Pershing County Water Conservation District
Sierra Pacific Power Company
Squaw Valley Development Company
Truckee-Carson Irrigation District
Virginia City Water Company
Walker River Irrigation District
Washoe County Water Conservation District

Other organizations and individuals furnish valuable
information for the snow survey reports. Their
Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

RENO, NEVADA

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with the Snow Survey"*